AMENDMENTS TO THE SPECIFICATION

Please amend the following paragraphs in the Substitute Specification (Clean Copy) filed on May 17, 2005.

Please replace the paragraph beginning on page 20, line 3 with the following amended paragraph:

1.3.1 Certificate Management

Cryptographic techniques well-know in the art [Chaum 81; Chaum 85; Chaum 91] provide the ability for a certificate to be linked to an agent's identity, and not transferred to other agents. This is the basic functionality required of a certificate management system. For example, a certifying agency can sign the public key of an agent with the private key of the certifying agency, to indicate that the agent satisfies requirements for certification. Another agent can verify the certificate with the public key of the agent and the public key of the certifying agency. The certificate cannot be transferred to another agent unless that agent assumes the same public key. We assume a public key infrastructure to manage this process.

1.3.2 Support for Anonymous and Pseudonymous Identities

We have already noted that it is important to provide whatever additional support is required because of the underlying communication infrastructure to protect agents' profile management policies. For example, in the TCP/IP mechanism a message must be stripped of the network address of the originating Internet server, because this can provide information to allow pseudonyms to be linked. Similarly, messages can be routed through a common gateway or random "forwarders" as in the "CROWDS" system [GGMM98; RR98] to provide pseudonymity. Furthermore, other e-commerce functions, such as payment and the anonymous mailing of goods must be supported ~~(see [INSERT A FORWARD REF TO A LATE SECTION OF BOTTOM-LEVEL SDI DOC])~~.

Please replace the paragraph beginning on page 80, line 17 with the following amended paragraph:

9.3 Data-Release Policy

The client-side SDI proxy provides support for automatic submission of profile data, and other types of data, to the SDI central data warehouse. This includes policies for pricing queries, and policies for introducing random perturbations to data.

There are a number of human/computer interactions that are important in allowing a user to configure these options. . Many of the issues were anticipated in Cranor's work [CR 98; RC 99], in which she describes methods adopted in the W3C P3P (platform for privacy preferences) project, and suggests that users can as a first step select a special interest group with which they are affiliated, use that as a base policy, and then adapt the policy as necessary. Alternative techniques include decision-tree methods ~~as described in pending patent [INSERT US PATENT NUMBER AND NAME],~~ that ask a user a number of questions in order to ascertain an appropriate service. There are many dimensions that a user might like to identify; for example: the type of information that can be released, the types of queries that can be performed on that data, the price that must be paid to perform the queries. For example, we might hard code different price and data-release policy codes, e.g. A B C D…, and allow third-parties to provide maps between data types and an appropriate policy code.

Please replace the paragraph beginning on page 83, line 3 with the following amended paragraph:

At the other extreme, we might simply provide no personal identifying information, such that in a business-consumer e-commerce application the vendor knows only the type of product that the agent is looking for, or the request for information made by the agent. In this situation we can use the methods disclosed <u>herein</u> ~~in [SECTION XXX, END OF BOTTOM LEVEL]~~ to complete a transaction with pseudonymous physical mail and pseudonymous payments.

Please replace the paragraph beginning on page 84, line 26 with the following amended paragraph:

There may be other click stream data release policies worth considering outside the preferred embodiment discussed above. For example, an Intermind ~~Intermind's~~ patent ~~number XXXX, entitled XXXX,~~ provides for the release of a user's information according to the terms and conditions of the user's own data disclosure policy.

Please replace the paragraph beginning on page 151, line 23 with the following amended paragraph:

There are a number of search-based applications, where SDI searches for appropriate profiles and then requests that SDI makes contact with the users pseudonymously, i.e. without the vendor receiving any useful information about a user's identity. The contact, interaction, and business relationship with the vendor occurs under terms of complete buyer pseudonymity. ~~In accordance with the parent patent application [INSERT US PATENT No.]~~ [[the]] The pseudonymous communication may be either email, real-time text communications, voice (such as the pseudonymous telephony or Internet telephony). In the case of pseudonymous telephony, instead of a one-time or persistent pseudonymous buyer address, pseudonymous buyer telephone numbers may be used for the third party to reach the buyer under his/her terms. Example applications include:

Please replace the paragraph beginning on page 160, line 29 with the following amended paragraph:

In another variation of SDI we can highlight content on web pages with information that might be relevant to a user, even when the source of the web page is not personalized. This can be done via collaborative filtering techniques, which might bring in feedback and comments from other similar users within SDI that are stored in the central SDI database. The iamworthit (user side) SDI database in cooperation with the vendor centric SDI service can sell to the vendor centric SDI service or other industry or market research organizations strategic information about the comprehensive behavior activities and user profiles of visitors and customers of these vendors (as is

suggested earlier in the spec). Additionally, targeted survey questions may be presented on behalf of these entities in order to extract further information which may be correlated with certain features and attributes of these users. ~~One such method, rapid profiling is detailed in the parent application [INSERT US PATENT NO].~~ One such method may be called rapid profiling.

Please replace the paragraph beginning on page 166, line 12 with the following amended paragraph:

The present state of the art for search systems involves the use of an extremely static interface, which is not personalized for a user. ~~In the previous patented disclosure [INSERT U.S. PATENT NO.] we~~ Some search systems identify features of a user and anticipate areas of content likely to be of interest. A personalized portal interface can then allow a user to view categories that are presorted in terms of expected value to a user, *based around more than the search term just entered.*

Please replace the paragraph beginning on page 177, line 8 with the following amended paragraph:

- The ability to dynamically customize all forms of relevant information from the educational portal. The criteria for this customization however is based not upon the preferences of the user (unless for example the user receives credit for studies or projects or research on topics which s/he may select, rather it is based upon a predicted profile of the user reflecting his/her strengths and in understanding the relevant content. In particular the techniques of the issued patent number 6,029,195, entitled "System for Customized Electronic Identification of Desirable Objects." ~~[WHAT IS THIS PATENT NAME]~~ describes a variation of user profiling in which users are able to achieve a proficiency profile within certain domains of informational content where these informational domain(s) are determined in accordance with user's ability to answer a certain question(s) intelligently, discuss the answer to a certain question or about a certain topic or provide a useful reference or URL based upon the level of satisfaction of the requestor. This technique in itself could be usefully applied within the present application framework. For example, users may be students, and "experts" fielding questions could be other students (like tutors of sorts) and the payment they receive

may be monetary compensation or even school, credit where other student's satisfaction ratings both qualify them for future opportunities to submit future responses within that particular knowledge domain as well as means of verification, and measurements of his/her proficiency over that particular material.

Please replace the paragraph beginning on page 184, line 18 with the following amended paragraph:

~~The parent issued patent [FILL IN THE PATENT NO.] describes an application of~~ Collaborative ~~collaborative~~ filtering may be applied to the *strategic optimization of a vendor's business,* for example to allow a vendor to select an optimal location for an inventory warehouse based on projected consumer purchasing patterns; using the aggregate purchase history of users at that site compared with the other purchase selections at other sites for similar users. The model can also be used to predict demand for new items, and optimal locations for inventory given warehouse locations.

Please replace the paragraph beginning on page 185, line 24 with the following amended paragraph:

There are numerous useful applications to improving quality, speed and cost of delivery to a user. In one example, it may be possible to provide same day delivery for on-line purchases. We could also restock a truck on the basis of what a local population of users are likely to purchase; with items presented to a user along with a particular anticipated delivery period, with the Global Positioning System (GPS) or more ~~LEIA [INSERT THE PATENT NO.]~~ location-based information on the vehicle providing up-to-date information about a truck's location and anticipated delivery time.

Please replace the paragraph beginning on page 215, line 16 with the following amended paragraph:

A part of a consumer's decision may be based on which vendors are likely to use personal data effectively in the future, to provide for example highly customized products/services for the

individual. Supply chains which can deliver products and services which are most closely aligned to the needs/preferences of the customer should ultimately win out by capturing the customer's loyalty. A consumer's personal data can be quite valuable to a supply-chain, especially if a consumer provides one supply-chain with the exclusive right to its personal data. In application to the virtual sales person scheme, customers can receive incentives to solicit other customers as introduced dynamically via SDI and LEIA ~~[Patent No. XXX],~~ customers that match desirable user profiles. The payment that a customer receives for committing to a supply-chain can be received from all members of the supply-chain that can gain value from the customer, with "considerations" passed down the chain which are eventually provided in some form of loyalty credit to the customer by the vendor at the end of the chain. Some of the value conveyed back to the user can, of course, be in the form of community credit, e.g. subsidizing a portion of the customer's needs from vendors within a supply chain.

Please replace the paragraph beginning on page 315, line 26 with the following amended paragraph:

There are numerous potential inputs to the system which could be considered in predicting what agent-mediated actions are, in fact, appropriate. ~~The techniques of the parent patent application [INSERT US PATENT NO] allow us to make strong~~ Strong inferences may be made about the particular mind set of a user; i.e. reflecting present interests or preferences which the user is likely to be receptive to, presently based upon such clues as who the user is presently interacting with, the content profiles of the present real-time dialogues, e. g, typed or spoken through a communications network, (or simply passively collected off-line), the object profile of documents or web pages being interacted with. Activities may further be inferred by such indicators such as the particular physical location of the user (i.e. within a LEIA-based system ~~[INSERT US PATENT NO]~~): the particular sequence of movements, the particular types of devices with which the user is interacting, etc.